

SHORT COMMUNICATIONS

Taxonomy of *Diplopeltis huegelii* (Sapindaceae)

During the floristic survey of the Swan Coastal Plain (Gibson *et al.* 1994) it became apparent that species from a wide range of genera and families have variants occurring on the Tamala Limestones near the west coast, which are distinct from those occurring on the granites and laterites of the Darling Range. These variants are disjunct as there are no populations occurring in between on the Bassendean sands and alluvial soils of the central and eastern parts of the coastal plain. Preliminary studies indicate that many of these disjunct variants appear to be morphologically distinct at the subspecific level from each other.

One of the species which has a distinctive limestone race is *Diplopeltis huegelii*. The taxonomy of the genus *Diplopeltis* Endl. (Sapindaceae) was revised by George & Erdtman (1970) who divided *D. huegelii* into a northern (*D. huegelii* var. *subintegra*) and southern (*D. huegelii* var. *huegelii*) race, based on differences in the lobing and pubescence of the leaves, but did not recognize the Darling Range race. This taxonomy was followed by West (1985).

The coastal and Darling Range races of *Diplopeltis huegelii* differ in the degree of lobing of the leaves and in the inflorescence size (Figure 1). They also occur on different soils, calcareous versus loams and clays.

All three variants deserve equal recognition. Since they are geographically and ecologically separated, with no apparent intergradation in morphology, they are best treated as subspecies, not varieties. New combinations are required.

A key, modified from that of West (1985), to the three subspecies is presented below:

- 1 Leaves divided or deeply lobed, usually pubescent
 - 2 Leaf lobes deep and almost reaching midrib along entire length of leaf lamina. Inflorescence compact subsp. **huegelii**
 - 2. Leaf lobes mostly shallow, only the basal ones deep. Inflorescence branches loose subsp. **lehmannii**
- 1. Leaves entire or shortly lobed near apex, pubescent only on margins and midrib, sometimes glabrous subsp. **subintegra**

Diplopeltis huegelii* Endl. subsp. *huegelii

Leaves divided or deeply lobed, the lobes almost reaching to midrib along entire length of lamina, usually sparsely pubescent on all surfaces. *Inflorescence* compact, few-branched, usually 10–15(25) cm long. (Figure 1A,B)

Distribution and habitat. Occurs on near-coastal limestone soils between Dongara and Mandurah.

Diplopeltis huegelii subsp. **lehmannii** (Miq.) Keighery, *comb. et stat. nov.*

Diplopeltis lehmannii Miq. (Miquel 1845: 224). *Type*: Darling Range, Western Australia, 9 August 1839, L. Preiss 1282 (*holo*: W n.v., photograph seen; *iso*: MEL).

Leaves distinctly lobed but the lobes mostly shallow, only deeply divided at base, usually pubescent only along margins of the leaves. *Inflorescence* loose, open, up to 30 cm long. (Figure 1C,D)

Specimens examined (all PERTH). WESTERN AUSTRALIA: Red Hill, T.E.H. Aplin 285, 316, 323; Badgingarra, J.S. Beard 1864; Forrestfield, R.J. Cranfield 176, 896; Karalee, C.F. Davies 748; Serpentine National Park, B. Evans 87; Bullsbrook, Nov. 1961, C.A. Gardner s.n.; New Norcia, C.A. Gardner 8684; SW of Eneabba, A.S. George 9623; Serpentine Falls, 1 Nov. 1970, A.S. George s.n.; Darling Range, 21 Oct. 1897, R. Helms s.n.; Arrowsmith River, Drummonds Crossing, R. Johnson 3339; 37 km E of Fitzgerald River crossing on Ravensthorpe to Esperance Road, 29 Oct. 1972, G.J. Keighery s.n.; 60 mile peg on Toodyay to Goomalling road, K.F. Kenneally 201; Wooroloo, M. Koch 1448; Maddington, 15 Sep. 1909, A. Morrison s.n.; Wongan Hills, P. Roberts 682; Cut Hill, York, 15 Oct. 1922, O. Sargent s.n.; Swan View, 25 Oct. 1900, A. Morrison s.n.; Red Hill, R. Spujit 6965, 7179.

Distribution and habitat. This subspecies extends from the Arrowsmith River, inland to York and south to Serpentine on granite, clay or lateritic soils. Apparently isolated populations occur at Karalee near Southern Cross (C.F. Davies 748) and east of Ravensthorpe (G.J. Keighery s.n.). These are remarkably disjunct from all other populations and require re-collecting to determine their presence and/or status.

Notes. Several northern collections of this subspecies (R. Johnson 3339 and A.S. George 9623) were previously listed as intermediates between subsp. *huegelii* and subsp. *subintegra*. A large number of collections held in PERTH of this subspecies are cited, to enable duplicates of these collections elsewhere to be determined.

Diplopeltis huegelii subsp. **subintegra** (A.S. George) Keighery, *stat. nov.*

Diplopeltis huegelii var. *subintegra* A.S. George (George & Erdtman 1970: 102). *Type*: 2 miles [3 km] west of Eradu on Geraldton to Mullewa road, Western Australia, E. M. Scymgeour 1446 (*holo*: PERTH 01598287).

Leaves entire or shortly lobed near apex, pubescent only on margins and midrib or sometimes glabrous. *Inflorescence* compact, usually less than 5 cm long.

Distribution and habitat. Occurs on sands between the Murchison River and Geraldton.

Acknowledgements

The curators of MEL and W allowed the author to examine or borrow photographs of type collections of *Diplopeltis*



Figure 1. A,B. *Diplopeltis huegelii* subsp. *huegelii*. A – flowering branch, B – leaf.; C,D. *D. huegelii* subsp. *lehmannii*. C – flowering branch, D – leaf. Scale bar = 10 mm. Drawn from G.J. Keighery 15324 (A,B) and T.E.H. Aplin 316 (C,D).

References

- Gibson, N., Keighery, B.J., Keighery, G.J., Burbidge, A.H. & Lyons, M.N. (1994). A Floristic Survey of the Southern Swan Coastal Plain. Unpublished Report for the Australian Heritage Commission prepared by Department of Conservation and Land Management and the Conservation Council of Western Australia (Inc.).
- George, A.S. & Erdtman, G. (1970). A revision of the genus *Diplopeltis* Endl. (Sapindaceae). *Grana Palynologica* 9: 92–109.
- Miquel, F.A.G. (1845). Sapindaceae Juss. *In*: Lehmann, "Plantae Preissianae." Vol. 1. pp. 223–224. (Meissner: Hamburg.)
- West, J.G. (1985). *Diplopeltis*. *In*: "Flora of Australia." Vol. 25. pp. 101–109. (Australian Government Publishing Service: Canberra.)

G.J. Keighery

Department of Conservation and Land Management, Western Australian Wildlife Research Centre,
PO Box 51, Wanneroo, Western Australia 6065.